

AMENDMENTS IN THE CLAIMS

1. (currently amended) A method of gathering management information from servers within a cluster, comprising:

receiving management information from ~~lightweight~~ probes located at each of a plurality of servers within the cluster, wherein each server includes a plurality of defined levels, each level having an associated individual ~~lightweight~~ probe, which gathers management information from that level of that server;

aggregating, at a designated management server, the received management information, wherein the management information received from similar levels across the plurality of servers within the cluster is aggregated into a single representation of the similar levels rather than individual representation of each level for each of the plurality of servers, wherein the designated management server is a single server that provides centralized management for all of the plurality of servers within the cluster such that localized management at each server is substantially eliminated, wherein aggregating the received management information further comprises:

aggregating the received management information at each of the plurality of levels including an application server level, an operating system level, a network level, and a hardware level; and

aggregating the received management information at a designated management server rather than on each server within the cluster; and

combining each of the single representation of the aggregated similar levels of management information to form a single management image of the cluster at the designated management server, wherein said combining further comprises combining the aggregate levels of management information at the designated management server to form a single, multi-level management image.

2. (currently amended) The method of claim 1, wherein the ~~lightweight~~ probes are utilized for information gathering and command and control functions, and wherein receiving management information from probes at each of a plurality of levels within every server within the cluster further comprises:

receiving information from ~~lightweight~~ probes at each of the plurality of levels within every server, including an application server level, an operating system level, a network level, and a hardware level.

3-5. (canceled)

6. (previously presented) The method of claim 1, further comprising:  
generating an extensible markup language data stream containing the single image of the cluster; and  
transmitting the data stream to an adapter for each system management application executing on a designated management server within the cluster.

7. (previously presented) The method of claim 1, further comprising:  
generating commands based on the single image of the cluster;  
dynamically dividing the commands based upon a plurality of levels including an application server level, an operating system level, a network level, and a hardware level;  
dynamically subdividing the divided commands according to individual servers within the cluster; and  
automatically transmitting each subdivided commands to respective probes at a corresponding level within a server within the cluster to effect a change in the operation of the specific level within each of the specific servers to which the command is directed.

8. (currently amended) A system for gathering management information from servers within a cluster, comprising:

means for receiving management information from ~~lightweight~~ probes located at each of a plurality of servers within the cluster, wherein each server includes a plurality of defined levels, each level having an associated individual ~~lightweight~~ probe, which gathers management information from that level of that server;

means for aggregating, at a designated management server, the received management information, wherein the management information received from similar levels across the plurality of servers within the cluster is aggregated into a single representation of the similar

levels rather than individual representation of each level for each of the plurality of servers, wherein the designated management server is a single server that provides centralized management for all of the plurality of servers within the cluster such that localized management at each server is substantially eliminated; [[and]]

means for combining each of the single representation of the aggregated similar levels of management information to form a single management image of the cluster at the designated management server;

means for executing management system's agent code, an associated adapter, and thin server manager on a meta server, whereby management data transfers are local and wherein, when the cluster is partitioned among a number of different organizations having content and applications hosted on the cluster, activating multiple XML streams, multiple adapters, and multiple system management agents, one per partition; and

means, when commands are received from the management system, for:

generating commands needed to control operation of the cluster;

dividing the commands generated by level and subdividing command levels by system; and

transmitting individual commands to a corresponding probe within an identified level of a particular system.

9. (currently amended) The system of claim 8, wherein the ~~lightweight~~ probes are utilized for information gathering and command and control functions, and the means for receiving management information from probes at each of a plurality of levels within every server further comprises:

means for receiving information from ~~lightweight~~ probes at each of the plurality of levels within every server including an application server level, an operating system level, a network level, and a hardware level.

10. (previously presented) The system of claim 8, wherein the means for aggregating the received management information at each of the plurality of levels across all servers within the cluster further comprises:

means for aggregating the received management information at each of the plurality of levels including an application server level, an operating system level, a network level, and a hardware level.

11. (previously presented) The system of claim 10, wherein:

the means for aggregating the received management information at each of the plurality of levels including an application server level, an operating system level, a network level, and a hardware level further comprises means for aggregating the received management information at a designated management server rather than on each server within the cluster; and

the means for combining the aggregate levels of management information to form a single image of the cluster further comprises combining the aggregate levels of management information at the designated management server to form a single multi-level management image.

12. (canceled)

13. (previously presented) The system of claim 8, further comprising:

means for generating an extensible markup language data stream containing the single image of the cluster; and

means for transmitting the data stream to an adapter for each system management application executing on a designated management server within the cluster.

14. (previously presented) The system of claim 8, further comprising:

means for dynamically generating commands based on the single image of the cluster;

means for dynamically dividing the commands based upon a plurality of levels including an application server level, an operating system level, a network level, and a hardware level;

means for automatically subdividing the divided commands according to individual servers within the cluster; and

means for transmitting each subdivided commands to respective probes at a corresponding level within a server within the cluster to effect a change in the operation of the specific level within each of the specific servers to which the command is directed.

15. (currently amended) A computer program product within a computer usable medium for gathering management information from servers within a cluster, comprising:

instructions for receiving management information from ~~lightweight~~ probes located at each of a plurality of servers within the cluster, wherein each server includes a plurality of defined levels, each level having an associated individual ~~lightweight~~ probe, which gathers management information from that level of that server;

instructions for aggregating, at a designated management server, the received management information, wherein the management information received from similar levels across the plurality of servers within the cluster is aggregated into a single representation of the similar levels rather than individual representation of each level for each of the plurality of servers, wherein the designated management server is a single server that provides centralized management for all of the plurality of servers within the cluster such that localized management at each server is substantially eliminated; [[and]]

instructions for combining each of the single representation of the aggregate levels of management information to form a single management image of the cluster at the designated management server;

instructions for generating commands based on the single image of the cluster;

instructions for dynamically dividing the commands based upon a plurality of levels including an application server level, an operating system level, a network level, and a hardware level;

instructions for dynamically subdividing the divided commands according to individual servers within the cluster; and

instructions for transmitting each subdivided commands to respective probes at a corresponding level within a server within the cluster to effect a change in the operation of the specific level within each of the specific servers to which the command is directed.

16. (currently amended) The computer program product of claim 15, wherein the ~~lightweight~~ probes are utilized for information gathering and command and control functions, and the instructions for receiving management information from probes at each of a plurality of levels within every server within the cluster further comprises:

instructions for receiving information from ~~lightweight~~ probes at each of the plurality of levels within every server including an application server level, an operating system level, a network level, and a hardware level.

17. (previously presented) The computer program product of claim 15, wherein:

the instructions for aggregating the received management information at each of the plurality of levels across all servers within the cluster further comprises:

instructions for aggregating the received management information at each of the plurality of levels including an application server level, an operating system level, a network level, and a hardware level; and

instructions for aggregating the received management information at a designated management server rather than on each server within the cluster; and

instructions for combining the aggregate levels of management information to form a single image of the cluster further comprises combining the aggregate levels of management information at the designated management server to form a single, multi-level management issue.

18-19. (previously canceled)

20. (previously presented) The computer program product of claim 15, further comprising:

instructions for generating an extensible markup language data stream containing the single image of the cluster, wherein multiple XML streams are generated when the cluster is partitioned among different organizations having content and applications hosted on the cluster; and

instructions for transmitting the data stream to an adapter for each system management application executing on a designated management server within the cluster.

21. (canceled)

22. (previously presented) The method of Claim 1, further comprising:  
generating an XML stream corresponding to an image of the cluster, wherein multiple XML streams are generated when the cluster is partitioned among different organizations having content and applications hosted on the cluster; and  
transmitting the XML stream to adapters for existing system management software.
23. (previously presented) The method of Claim 22, further comprising:  
executing management system's agent code, an associated adapter, and thin server manager on a meta server, whereby management data transfers are local and wherein, when the cluster is partitioned among a number of different organizations having content and applications hosted on the cluster, activating multiple XML streams, multiple adapters, and multiple system management agents, one per partition; and  
when commands are received from the management system,  
generating commands needed to control operation of the cluster:  
dividing the commands generated by level and subdividing command levels by system; and  
transmitting individual commands to a corresponding probe within an identified level of a particular system.
24. (previously presented) The system of Claim 8, further comprising:  
means for generating an XML stream corresponding to an image of the cluster, wherein multiple XML streams are generated when the cluster is partitioned among different organizations having content and applications hosted on the cluster; and  
means for transmitting the XML stream to adapters for existing system management software.
25. (canceled)
26. (previously presented) The computer program product of Claim 15, further comprising:  
instructions for executing management system's agent code, an associated adapter, and thin server manager on a meta server, whereby management data transfers are local and wherein,

when the cluster is partitioned among a number of different organizations having content and applications hosted on the cluster, activating multiple XML streams, multiple adapters, and multiple system management agents, one per partition; and

instructions, when commands are received from the management system, for:

generating commands needed to control operation of the cluster;

dividing the commands generated by level and subdividing command levels by system; and

transmitting individual commands to a corresponding probe within an identified level of a particular system.

27. (previously presented) A method of gathering management information from servers within a cluster, comprising:

receiving management information from lightweight probes located at each of a plurality of servers within the cluster, wherein:

each server includes a plurality of defined levels, each level having an associated individual lightweight probe, which gathers management information from that level of that server;

the lightweight probes are utilized for information gathering and command and control functions;

receiving management information from probes at each of a plurality of levels within every server within the cluster further comprises receiving information from lightweight probes at each of the plurality of levels within every server, including an application server level, an operating system level, a network level, and a hardware level;

aggregating, at a designated management server, the received management information, wherein the management information received from similar levels across the plurality of servers within the cluster is aggregated into a single representation of the similar levels rather than individual representation of each level for each of the plurality of servers, wherein the designated management server is a single server that provides centralized management for all of the plurality of servers within the cluster such that localized management at each server is substantially eliminated;



combining each of the single representation of the aggregated similar levels of management information to form a single management image of the cluster at the designated management server;

generating an extensible markup language data stream containing the single image of the cluster;

transmitting the data stream to an adapter for each system management application executing on a designated management server within the cluster;

generating commands based on the single image of the cluster;

dynamically dividing the commands based upon a plurality of levels including an application server level, an operating system level, a network level, and a hardware level;

dynamically subdividing the divided commands according to individual servers within the cluster; and

automatically transmitting each subdivided commands to respective probes at a corresponding level within a server within the cluster to effect a change in the operation of the specific level within each of the specific servers to which the command is directed.

28. (previously presented) The method of claim 27, wherein:

aggregating the received management information at each of the plurality of levels across all servers within the cluster further comprises:

aggregating the received management information at each of the plurality of levels including an application server level, an operating system level, a network level, and a hardware level; and

aggregating the received management information at a designated management server rather than on each server within the cluster; and

combining the aggregate levels of management information to form a single management image of the cluster further comprises combining the aggregate levels of management information at the designated management server to form a single, multi-level management image.